EX-6 series

HYDRAULIC EXCAVATOR

- **Model Code:** EX1200-6
- **Engine Gross Power:** 567 kW (760 HP)
- **Operating Weight:**
  - Backhoe: 111 000 kg
  - BE-front: 112 000 kg
  - Loading Shovel: 114 000 kg
- **Backhoe Bucket:**
  - SAE, PCSA Heaped: 5.2 - 6.7 m³
  - CECE Heaped: 4.6 - 5.9 m³
- **Loading Shovel Bucket:** Heaped: 5.9 - 6.5 m³

Notes: This picture includes optional slide ladder.
The New-Generation Hydraulic Excavator: The Hitachi Giant EX1200

The Hitachi EX1200, a new-generation giant hydraulic excavator, is designed for extraordinary production and toughness on large-scale mines, quarries and civil-engineering projects. The EX1200 comes with lots of leading-edge technologies, including the high-power engine, sophisticated hydraulic system, strengthened undercarriage, an array of safety devices, and eco- and environment-friendly design.
Notes: This picture includes optional slide ladder and custom-designed reinforcing plates for side track frame.
**Impressive Productivity**

More production thanks to Hitachi’s cutting-edging technologies

**Production: Approximately 9% Increase (H/P modes)**

(vs. conventional model with BE front)

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**Advanced Hydraulic Technologies**

**Boom Recirculation System**

Pressurized oil is efficiently recirculated in the boom circuit, assisted by the boom self-weight when the boom lowers. This design delivers more pressurized oil to the arm from the pump to increase arm lowering speed in combined operation of the boom and arm.

**Combined Operation of Boom and Arm**

In combined operation of swing + boom lower + arm roll-out, or in leveling (boom lower + arm roll-out), arm roll-out speed can be increased greatly. A variable throttle, provided in the arm circuit, adjusts the oil flow in combined operation with arm roll-out.

**Boom- and Swing-Priority Modes**

The boom- or swing-priority mode can be selected for higher production.

- **Boom-Priority Mode**
  
  When swing angle is small in a cycle of digging, swinging and dumping, boom raise speed increases to reduce a cycle time.

- **Swing-Priority Mode**
  
  When swing angle is large in a cycle of digging, swinging and dumping, swing speed increases to reduce a cycle time.

Three work modes can be selected by setting the switch to the three positions below.

- Position 1: Boom-priority mode
- Position 2: Normal mode
- Position 3: Swing-priority mode

**Boom Mode Selector**

The two boom modes, comfort and powerful modes, can be selected according to job needs, extending the service life of the machine. When the boom mode selector is On, the comfort mode is selected for efficient excavation, while the selector is Off, the powerful mode for productive excavation.

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**Advanced Hydraulic Technologies**

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**Impressive Productivity**

More production thanks to Hitachi’s cutting-edging technologies

**Production: Approximately 9% Increase (H/P modes)**

(vs. conventional model with BE front)
Excavation Closer to Machine

The front linkage is redesigned to allow the front to excavate closer to the machine for well combination with dump trucks.

Notes: The bucket pictured is custom designed.

Increased Boom Lifting Force

The boom lifting force is increased to easily lift large rocks on quarries and mines.

- **Boom lifting force:**
  - Approximately 8% increase
  (vs. conventional model with BE front; arm positioned vertically and bucket resting on ground)

Improved Mobility

Mobility is improved to achieve sharper steering with more traction force.

- **Traction force:**
  - Approximately 14% increase
  (vs. conventional model)

Increased Digging Force

Digging force is increased for powerful excavation on quarries and mines, using the BE or standard front.

Improved Swing Performance

Swing performance, even on a gradient, is improved for efficient trenching for piping laying, and for wall excavation using the bucket side.

- **Swing torque:**
  - Approximately 8% increase
  (vs. conventional model)

BE front: 620 mm
Standard front: 790 mm

( vs. conventional model)
High Durability Means Long-Lasting Product Value

Strengthened undercarriage for higher durability even in heavy-duty applications

**Strengthened Undercarriage**

**Enlarged Track Links**
Track links are enlarged to increase strength for higher durability and reliability especially on rugged ground.

**Strengthened Idler Pedestal**
At the idler pedestal that sustains the front idler, its contact length is lengthened by approximately 90% to increase strength and service life.

**Durable Idler Brackets**
Thickened durable plates of idler brackets increase reliability of the idlers.

**Enlarged Upper/Lower Rollers, Sprockets and Idlers**
Tracks are strengthened for higher mobility by increasing roller width and diameter, sprocket tooth width, and idler width.
Separate Oil Cooler

The oil cooler is separated from the radiator to effectively cool down hydraulic oil. This helps extend the service life of hydraulics.

Durable Swing Bearing

The number of balls, in the swing bearing that sustain the upperstructure, is increased to boost the load-carrying capacity by approximately 6% (vs. conventional model). This improvement allows for smoother swing even in heavy-duty operation.

Center Track Frame

The center track frame of integral cast steel structure can avoid stress concentration, and increase reliability.

New Delivery Filters

Delivery filters, newly added to the delivery side of hydraulic pumps, effectively protect hydraulic lines from accidents.

Rock Buckets

5.2 m³ / 5.8 m³

Rock buckets are specifically strengthened to resist wear and impact.

Rock Buckets

5.8 m³ Rock Bucket

(1) Dual wear plates
(2) Reinforced bucket corners
(3) Large bucket teeth for rock excavation
(4) Dual side shrouds
(5) Cutting edge shrouds

Notes: This picture includes custom-designed components, including reinforcing plates for side track frame.

Sophisticated Designs

Rugged Travel Devices

The travel devices are compact-designed to reduce damage for higher mobility, reducing downtime.

Integral cast steel

Durable Swing Bearing

Center Track Frame

New Delivery Filters

Rock Buckets

5.2 m³ / 5.8 m³

Reliable Grease-Filled Floating Pins

Two grease-filled floating pins, at the boom top and at A linkage, increase the sealing ability, extend pin life, and reduce repair costs. Wear plates are provided on both sides of a boss at the arm top.
Enhanced Operator Comfort

The spacious cab is ergonomically designed with excellent visibility to enhance operator comfort with less operator fatigue.

New Spacious, Operator-Oriented Cab

The new spacious cab, resting on elastic fluid-filled mounts, enhances operator comfort, and gives excellent visibility. Vibration and sound are insulated for comfort ride and pleasant operation with less fatigue.

Excellent Visibility

The glass windows are enlarged for excellent visibility, especially right-forward visibility during travel and excavation.

Ample Foot Space

Foot space is extended forward, and pedals are reshaped for pleasant foot control.

Short-Stroke Levers

Fingertip-control short-stroke levers allows for long, continuous operation, with the help of armrests.

Control lever effort: 
Approximately 30% decrease
(vs. conventional model)

Pressurized Cab

The cab is pressurized to keep out dust and debris.

Comfort-Designed Operator Seat

The operator seat is ergonomically designed for long-hour pleasant operation. The seatback is widened to hold the operator securely, and the headrest is reshaped for operator comfort.

Overhead LED Light

An overhead LED light, with longer service life than lightbulb, is newly utilized for lighting in the cab. This allows the operator to log on a night shift.
Scheduled Maintenance

Replacement intervals of engine oil, hydraulic oil, filters can be preset on the monitor. The monitor alerts the operator of the scheduled replacement when necessary.

Multi-Function, Multi-Language Monitor

A large multi-function, multi-language LCD monitor is well positioned for easy reading.

Rearview Camera

The large color LCD monitor, teamed up with a rearview camera atop the counterweight, gives unobstructed rearward view. This enhances safety when the machine swings and moves rearward.

Miscellaneous Accessories

- Control Panel
- Full-Auto Air Conditioner and FM/AM Radio
- Drink Holder
- Hot & Cool Box
- Large Storage Space
- Sun visor (Optional)

Notes: This picture includes optional air-suspension seat and switches.
Environment-Friendly Design with Enhanced Safety

Safety-First Design, and Environmental Awareness with the Clean Engine

Safety-First Design

Rugged Cab with Integrated Headguard

The rugged cab is integrated with the OPG* Level II (ISO) guard to protect the operator from falling objects. The cab front guard is an option.

*Operator Protective Guard

Pilot Control Shut-Off Lever

The shut-off lever for pilot control helps to prevent unintentional movements.

Step Light for Night Work

The step light turns On for one minute after key-off. This feature is convenient in night-shift work.

Angle-Adjustable Headlights

Headlights at the cab can be angle-adjusted for proper lighting at job site.

Wide Sidewalks and Large Handrails

Wide sidewalks and large handrails are provided at key locations for easy access to the cab, and for safe servicing and inspection. Handrails conform to EN*.

*European Norm

Environment-Conscious Design

New Clean Engine

The clean engine, complying with the emission regulations EPA (U.S.) Tier 2, is mounted to reduce emissions containing NOx and PM (Particulate Matter).

Variable-Speed Fan

The large 120 mm-diameter variable-speed electro-hydraulic fan is provided for oil cooler cooling. Fan speed is optimally controlled according to job conditions, including atmospheric temperature, for effective cooling and noise suppression.
Aluminum Radiator, Oil Cooler and Air Conditioner Condenser

The aluminum radiator, oil cooler and air conditioner condenser are corrosion-resistant and recyclable.

Marking of Recyclables

All recyclable resin parts are marked for the convenience of recycling.

Reducing the Burden to the Environment

Lead-free components, including wire harness covering, oil cooler and control unit, are utilized. No asbestos is used.
Simplified Maintenance

Focusing on simple servicing, inspection and cleaning

Simplified Cleaning Around Engine

Parallel Arrangement of Radiator and Oil Cooler

The radiator and oil cooler are arranged side by side to increase cooling efficiency. This also reduces cleaning time and effort remarkably.

Simplified Cleaning around Oil Cooler

The air conditioner condenser is openable for easy access and cleaning of the oil cooler located behind.

Simplified Maintenance

Auto Dust Ejector (Air Cleaner)

The auto dust ejector automatically ejects airborne dust and particles to keep filter elements clean and extend their replacement intervals.

Extended Filter Replacement Intervals

Replacement intervals of hydraulic oil filters are extended from 500 hours to 1000 hours, thus reducing running costs.

Auto Lubrication System

The auto lubrication system is provided standard at the front attachment to simplify daily maintenance, except for the bucket pin and swing circle.
Functionally Layout of Devices and Utility Space

Devices and walkways are functionally laid out for efficient servicing and inspection. The central walkway facilitates the servicing and maintenance of the engine.

- Engine
- Pump Drive Unit
- Hydraulic Pump x 3
- Hydraulic Oil Tank
- Fuel Tank
- Engine Radiator
- Engine Air Cooler
- Oil Cooler
- Main Control Valve
- Swing Control Valve
- Swing Device x 2
- Center Joint
- Filters
- Batteries
- Batteries and Lubricator Box
- Operator Cab
- Air Conditioning Unit
- Slide Ladder (Optional)

Electric Grease Gun

An electric grease gun (pail can type) is provided standard with a hose reel for convenient lubrication of the swing circle and bucket pin.

Optional Slide Ladder

The slide ladder is optionally available on the left side of the machine for easy access to the cab and working platform.

Wide-Open Inspection Doors

Inspection doors open wide for easy maintenance.

Easily Replaceable Air Conditioner Filter

An air conditioner filter is located to the cab door side behind the operator seat for easy cleaning and replacing.

Conveniently Located Switchboard

The switchboard is located in the cab at its rear for the convenience of inspection.

MIC Mining

The Hitachi MIC mining system comprises the DLU (Data Logging Unit) that logs daily operating conditions and warnings, including operating data on the engine and hydraulics. The log can be downloaded by PC or PDA.
**SPECIFICATIONS**

**ENGINE**

<table>
<thead>
<tr>
<th>Model</th>
<th>Cummins QSK23-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Water-cooled, 4-cycle, 6-cylinder in line, turbo-charged direct injection chamber-type diesel engine.</td>
</tr>
</tbody>
</table>

**Rated power**

- SAE J1995, gross: 567 kW (760 HP) at 1 800 min⁻¹ (rpm)
- Net: 552 kW (740 HP) at 1 800 min⁻¹ (rpm)
- Piston displacement: 23.15 L
- Fuel tank capacity: 1 470 L

**HYDRAULIC SYSTEM**

| Main pumps | 3 variable-displacement, swash plate type axial piston pumps |
| Maximum oil flow | 3 x 520 L/min |
| Pressure setting | 31.9 MPa (325 kgf/cm²) |

**UNDERCARRIAGE**

- Travel speeds:
  - High: 0 to 3.5 km/h
  - Low: 0 to 2.4 km/h
- Maximum traction force: 707 kN (72 100 kgf)
- Gradeability: 70% (35 degree) max.

**WEIGHTS AND GROUND PRESSURE**

**Backhoe**

<table>
<thead>
<tr>
<th>Shoe type</th>
<th>Shoe width</th>
<th>Operating weight</th>
<th>Ground pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double grousers</td>
<td>700 mm</td>
<td>111 000 kg</td>
<td>142 kPa (1.45 kgf/cm²)</td>
</tr>
<tr>
<td>Double grousers</td>
<td>900 mm</td>
<td>113 000 kg</td>
<td>112 kPa (1.14 kgf/cm²)</td>
</tr>
</tbody>
</table>

**Loading Shovel**

<table>
<thead>
<tr>
<th>Shoe type</th>
<th>Shoe width</th>
<th>Operating weight</th>
<th>Ground pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double grousers</td>
<td>700 mm</td>
<td>114 000 kg</td>
<td>146 kPa (1.49 kgf/cm²)</td>
</tr>
</tbody>
</table>

**BACKHOE ATTACHMENTS**

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Width</th>
<th>No. of teeth</th>
<th>Weight</th>
<th>Type</th>
<th>Materials density kg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAE, PCSA heaped</td>
<td>Without shroud</td>
<td>With shroud</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.2 m³</td>
<td>1 940 mm</td>
<td>2 120 mm</td>
<td>5</td>
<td>4 910 kg</td>
<td>○</td>
</tr>
<tr>
<td>5.2 m³</td>
<td>1 900 mm</td>
<td>2 000 mm</td>
<td>5</td>
<td>5 930 kg</td>
<td>●</td>
</tr>
<tr>
<td>5.8 m³</td>
<td>2 120 mm</td>
<td>2 220 mm</td>
<td>5</td>
<td>6 390 kg</td>
<td>●</td>
</tr>
<tr>
<td>6.7 m³</td>
<td>2 300 mm</td>
<td>2 400 mm</td>
<td>5</td>
<td>6 650 kg</td>
<td>○</td>
</tr>
</tbody>
</table>

- Rock bucket
- General purpose bucket
- Not applicable

**LOADING SHOVEL ATTACHMENTS**

<table>
<thead>
<tr>
<th>Capacity (heaped)</th>
<th>Width</th>
<th>No. of teeth</th>
<th>Weight</th>
<th>Type</th>
<th>Materials density kg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.9 m³</td>
<td>2 510 mm</td>
<td>6</td>
<td>9 780 kg</td>
<td>●</td>
<td>1 800 kg/m³</td>
</tr>
<tr>
<td>6.5 m³</td>
<td>2 700 mm</td>
<td>6</td>
<td>9 200 kg</td>
<td>○</td>
<td>1 800 kg/m³</td>
</tr>
</tbody>
</table>

- Bottom dump type rock bucket
- Bottom dump type general purpose bucket
### DIMENSIONS

Unit: mm

### WORKING RANGES

#### Backhoe

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bucket capacity (heaped)</td>
<td>6.5 m³</td>
<td></td>
</tr>
<tr>
<td>Arm length</td>
<td>3.4 m</td>
<td>3.6 m</td>
</tr>
<tr>
<td>A  Max. digging reach</td>
<td>13 750 mm</td>
<td>15 350 mm</td>
</tr>
<tr>
<td>A' Max. digging reach (on ground)</td>
<td>13 360 mm</td>
<td>15 010 mm</td>
</tr>
<tr>
<td>B  Max. digging depth</td>
<td>8 050 mm</td>
<td>9 380 mm</td>
</tr>
<tr>
<td>B' Max. digging depth (8' level)</td>
<td>7 920 mm</td>
<td>9 260 mm</td>
</tr>
<tr>
<td>C  Max. cutting height</td>
<td>12 410 mm</td>
<td>13 460 mm</td>
</tr>
<tr>
<td>D  Max. dumping height</td>
<td>8 050 mm</td>
<td>9 080 mm</td>
</tr>
<tr>
<td>E  Max. vertical wall</td>
<td>13 750 mm</td>
<td>15 350 mm</td>
</tr>
<tr>
<td>F  Max. dumping height</td>
<td>8 050 mm</td>
<td>9 080 mm</td>
</tr>
</tbody>
</table>

#### Loading Shovel

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<td>13 750 mm</td>
<td>15 350 mm</td>
</tr>
</tbody>
</table>

#### Bucket digging force

<table>
<thead>
<tr>
<th>Force</th>
<th>ISO</th>
<th>SAE: PCSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A  Max. digging reach</td>
<td>569 (58 000)</td>
<td>482 (49 200)</td>
</tr>
<tr>
<td>B  Max. digging depth</td>
<td>512 (52 200)</td>
<td>440 (44 900)</td>
</tr>
<tr>
<td>B' Max. digging depth (8' level)</td>
<td>438 (44 700)</td>
<td>430 (43 900)</td>
</tr>
</tbody>
</table>

#### Arm crowd force

<table>
<thead>
<tr>
<th>Force</th>
<th>ISO</th>
<th>SAE: PCSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A  Max. digging reach</td>
<td>438 (44 700)</td>
<td>430 (43 900)</td>
</tr>
<tr>
<td>B  Max. digging depth</td>
<td>425 (43 400)</td>
<td>422 (43 000)</td>
</tr>
</tbody>
</table>

#### Crowding force

- Breakout force: 594 kN (60 600 kgf)
- Crowding force: 577 kN (58 900 kgf)
<table>
<thead>
<tr>
<th>STANDARD EQUIPMENT</th>
<th>Standard equipment may vary by country, so please consult your Hitachi dealer for details.</th>
</tr>
</thead>
</table>
| **ENGINE**        | • H/P mode control  
          | • P mode control  
          | • E mode control  
          | • 75 A alternator  
          | • Dry-type air filter with clean dust cup  
          | • Cartridge-type engine oil filter  
          | • Water filter  
          | • Radiator, air cooler and oil cooler  
          | • Radiator reserve tank  
          | • Fan guard  
          | • Isolation-mounted engine  
          | • Auto-idle system  
          | • Overheat prevention device |
| **HYDRAULIC SYSTEM** | • Engine speed sensing system  
          | • E-P control system  
          | • OHS (Optimum Hydraulic System)  
          | • FPS (Fuel-saving Pump System)  
          | • Swing/boom priority mode system  
          | • Heavy lifting system  
          | • Boom mode selector system  
          | • Forced-lubrication and forced cooling pump drive system  
          | • Control valve with main relief valve  
          | • Line filter (Delivery filter)  
          | • Suction filter  
          | • Full-flow filter  
          | • Pilot filter  
          | • Pump drain filter |
| **CAB**            | • All-weather sound-suppressed steel integrated cab with headguard (OPG Level II (ISO) conforming), laminated glass windshield, reinforced/tinted (green color) glass side and rear windows, intermittent wiper interconnected with front windshield washer, adjustable reclining seat with adjustable armrests, footrest, electrical horn, auto-tuning AM-FM radio with digital clock, seat belt, cigarette lighter, ashtray, parcel pocket, glove compartment, floor mat, auto-idle switch, evacuation hammer, auto air conditioner with defroster, hot and cool box, engine control dial, pilot control shut-off lever, LED room lamp. |
| **MONITOR SYSTEM** | • Meters:  
          | • Hour meter, engine coolant temperature gauge and fuel gauge, auto-idle, indicator, lubrication mode indicator.  
          | • Warning indicators:  
          | • Radiator water level, engine oil level, hydraulic oil level, fuel level, auto lubrication, air-filter restriction, pump transmission oil pressure, alternator, over heat, engine oil pressure, engine stop, preheat and engine warning.  
| **UPPERSTRUCTURE** | • Undercover  
          | • 17 500 kg counterweight  
          | • Electric grease gun with hose reel  
          | • Centralized lubrication system for swing bearing  
          | • Control valves with main relief valves and port relief valves  
          | • Slow return orifices and make up valves for cylinder circuits |
| **UNDERCARRIAGE** | • Spring-set/hydraulic-released disc type parking brake  
          | • Hydraulic (grease) track adjuster with shock absorbing recoils spring  
          | • Travel motor cover  
          | • Track and idler guards |
| **MISCELLANEOUS** | • Standard tool kit  
          | • ISO conforming stairs and handrails  
          | • Wide side walk  
          | • Auto-lubrication system for front-attachment  
          | • 12 V power terminal board  
          | • Slip resistance tapes  
          | • Elevated cab (for Loading Shovel) |

These specifications are subject to change without notice. Illustrations and photos show the standard models, and may or may not include optional equipment, accessories, and all standard equipment with some differences in color and features. Before use, read and understand the Operator’s Manual for proper operation.